



Xerox Docket No. D/A3189

IFW

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Michael A. KNEISSL et al.

Application No.: 10/736,602

Filed: December 17, 2003

Docket No.: 115917

For: GRATING-OUTCOUPLED CAVITY RESONATOR HAVING UNI-DIRECTIONAL EMISSION

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date of this non-CPA application, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.
- ☒ 2. A co-pending U.S. patent application is identified on Form PTO 1449 of this Information Disclosure Statement. The Examiner is respectfully requested to consider each cited application and the art cited therein during examination of the present application.

Respectfully submitted,

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Registration No. 52,241

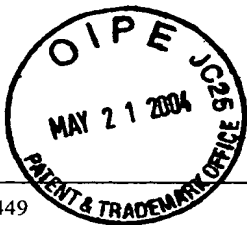
JAO:JKS/eks

Date: May 21, 2004

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Sheet 1 of 2

Form PTO-1449 (REV. 8-83)		US Dept. of Commerce PATENT & TRADEMARK OFFICE		ATTY DOCKET NO. 115917		APPLICATION NO. 10736,602	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				APPLICANTS Michael A. KNEISSL et al.			
				FILING DATE December 17, 2003			
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	
		10/428,068	05/02/03	Michael A. KNEISSL et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
		Rex, N.B. et al., "Threshold Lowering in GaN Micropillar Lasers By Means of Spatially Selective Optical Pumping," <u>IEEE Photon. Tech. Lett.</u> Vol. 13, No. 1, Jan. 1, 2001., pp. 1-3					
		Rex, N. et al., "Fresnel Filtering in Lasing Emission from Scarred Modes of Wave-Chaotic Optical Resonators," <u>Phys. Rev. Lett.</u> , Vol. 88, art. no. 094102-1 -094102-4 (2002)					
		Poon, A. W. et al., "Multimode Resonances in Square-Shaped Optical Microcavities," <u>Opt. Lett.</u> , Vol. 26, No. 9, May 1, 2001, pp. 632-634.					
		Tureci, H.E. et al., "Deviation from Snell's Law for Beams Transmitted Near the Critical Angle: Application to Microcavity Lasers," <u>Opt. Lett.</u> , Vol. 27, No. 1, Jan. 1, 2002, pp. 7-9					
		Nockel, J.U. et al., "Ray and Wave Chaos in Asymmetric Resonant Optical Cavities," <u>Nature</u> , Vol. 385, No. 45 (1997).					
		Gmachl, C. et al., "High-Power Directional Emission From Microlasers With Chaotic Resonators," <u>Science</u> Vol. 280, 5 June 1998, pp. 1556-1564					
		Nockel, J.U. et al., "Directional Emission from Asymmetric Resonant Cavities," <u>Opt. Lett.</u> , Vol. 21, No. 19, October 1, 1996, pp. 1609-1611					
		Chang, S. et al., "Observation of Emission from Chaotic Lasing Modes in Deformed Microspheres: Displacement by the Stable-Orbit Modes," <u>J. Opt. Soc. Am. B-Opt. Phys.</u> , 17 (2002)					
		Schwefel, H.G.L. et al., "Dramatic Shape Sensitivity of Emission Patterns for Similarly Deformed Cylindrical Polymer Lasers," <u>CLEO/QELS</u> May 2002, pp. 24-25.					
		Tureci, H.E. et al., "Lasing Emission From Stable and Unstable Modes of Deformed GaN Microdisks," <u>CLEO/QELS</u> , May 2002, pp. 23-24.					
		Chern, G.D. et al., "Directional Laser Emission from Square, Spiral and Mismatched Semi-Circular Dye-Doped Polymer Based Micropillar Cavities," <u>CLEO/QELS</u> May 2002, pp. 25-26					
		Rex, N.B. et al., "Directional Laser Emission From Chaotic Modes in Quadrupole-Deformed GaN Microdisks," <u>CLEO/QELS</u> May 2000, pp. 178-179					
EXAMINER				DATE CONSIDERED			
Examiner: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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		Rex, N.B. et al., "Threshold Minimization and Directional Laser Emission From GaN Microdisks," <u>SPIE</u> January 2000, pp. 163-169					
		Rex, N.B. et al., "Lasing in GaN Micropillar Cavities of N-Polygons: Polygonal Modes and Increased Directionality," <u>OSA</u> 9/28/1999					
		Chang, S. et al., "Laser Emission From Deformed Microcavities: Chaotic and Regular Orbits," <u>OSA</u> 10/7/1998					
		Chang, R. K. et al., "Stimulated Emission Within a Nonspherical Microcavity," <u>OSA</u> 10/16/1998					
		Levi, A.F.J. et al., "Directional Light Coupling from Microdisk Lasers," <u>Appl. Phys. Lett.</u> 62 (6) (1993), pp. 561-563					
		Sakai, A. et al., "FDTD Simulation of Photonic Devices and Circuits Based on Circular and Fan-Shaped Microdisks," <u>J. Lightwave Tech.</u> 17 (8) (August 1999), pp. 1493-1499					
		McCall, S.L. et al., "Whispering-Gallery Mode Microdisk Lasers," <u>Appl. Phys. Lett.</u> 60, pp. 289-291, (January 1992).					
		Levi, A.F.J. et al., "Room-Temperature Lasing Action in $\text{In}_{0.51}\text{Ga}_{0.49}\text{P}/\text{In}_{0.2}\text{Ga}_{0.8}\text{As}$ Microcylinder Laser Diodes," <u>Appl. Phys. Lett.</u> 62 (17), April 1993, pp. 2021-2023					
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